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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,903	02/19/2004	Akihiko Maruyama	SE-US045035	7554

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EXAMINER	
PHAN, THANH S	

ART UNIT	PAPER NUMBER
2841	

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/780,903	MARUYAMA ET AL.	
	Examiner	Art Unit	
	Thanh S. Phan	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *1-9,15-17,24,25 and 27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-14,18-23 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04/16/04,08/03/04,*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 10-14, 18-23 and 26 in the reply filed on 04/17/06 is acknowledged. The claims are subject of a rejoinder for future allowance if containing patentable subject matter(s).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Kasuga et al. [US 5,365,139], Kasuga hereinafter.

Regarding claim 18. Kasuga discloses a timing device [figures 25 and 32] comprising communication means [figure 32; 852] for communicating with an external communication device; and time display means [not explicitly numbered] provided with a piezoelectric actuator [figure 25, column 17, lines 11-31] that vibrates according to signals from the communication means, and designed for displaying the time.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10-14, 19-23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasuga.

Regarding claim 10. Kasuga discloses a timing device [figures 25; column 17 line 5 – column 18, line 15], comprising: an antenna [852; figure 32; column 17, lines 59-61]; a communication unit [853] to communicate with an external communication device via the antenna; a drive unit [ultrasonic motor 832].

In this particular embodiment [figure 25], Kasuga does not explicitly discloses that the drive unit having a piezoelectric actuator that oscillates according to a signal from the communication unit, and a mechanical structure designed to be driven by the piezoelectric actuator and provided with a time display unit for displaying time information.

In another embodiment [figures 23-24; and column 16, lines 22-69]; Kasuga discloses wherein the drive unit having a piezoelectric actuator that oscillates according to a signal from the communication unit, and a mechanical structure designed to be driven by the piezoelectric actuator and provided with a time display unit for displaying time information.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the drive unit as suggested in the embodiment of figures 23-24 with the embodiment of figure 25 to the purpose of displays the time accurately.

Regarding claim 11. Kasuga discloses wherein the communication unit comprises a receiving unit [853] for receiving time information at a specific cycle from the outside via the antenna, and a current time counter [831] unit for sequentially

updating the current time information using the time corresponding to the time information received by the receiving unit as a reference; and the mechanical structure displays the time information on the time display unit on the basis of the current time information from the current time counter unit [column 17, line 45 – column 18, line 6].

Regarding claim 12. Kasuga discloses wherein the mechanical structure further has a rotor [not explicitly numbered]; and the piezoelectric actuator is configured so as to rotatably drive the rotor by elliptical movement resulting from a combination of longitudinal oscillation and curved oscillation [column 17, lines 45-56].

Regarding claim 13. Kasuga discloses wherein the piezoelectric actuator comprises an oscillating plate having a plate-shaped piezoelectric element [322] and a reinforcing plate [323] stacked on the piezoelectric element, a contact section [not explicitly numbered] provided to the longitudinal tip of the oscillating plate, a support member [326], and a holding section [not explicitly numbered] for holding the oscillating plate on the support member; and the contact section is disposed at a location in which a rotor of the mechanical structure is driven by displacement resulting from the oscillation of the piezoelectric element [column 17, lines 12-44].

Regarding claim 14. Kasuga discloses wherein the time display unit comprises pointers [hands which is not explicitly numbered] for displaying time information and a pointer driving actuator for driving the pointers [not explicitly numbered] and as illustrated in figure 32, wherein the antenna is configured to permit proper functionalities of the timepiece device except for explicitly describe that the antenna is disposed at a location in which the positive projection of the antenna on a plane perpendicular to the

thickness direction of the timing device does not overlap the positive projection of the pointer driving piezoelectric actuator on the plane, and is also disposed to be separated by a specific distance in a direction perpendicular to the thickness direction.

It is old and well known in the art that the displacement of the components within the timepiece need to meet the specifications of the of the timepiece device to allow proper time displaying. It also taken that both the concept and the advantages for displaying the time accurately which include the antenna in a specific configuration are well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have the antenna is disposed at a location in which the positive projection of the antenna on a plane perpendicular to the thickness direction of the timing device does not overlap the positive projection of the pointer driving piezoelectric actuator on the plane, and is also disposed to be separated by a specific distance in a direction perpendicular to the thickness direction to facilitate proper time telling functions without interfering other components.

Regarding claims 19-21. The method steps are necessitated by the apparatus structures as disclosed above by Kasuga.

Regarding claims 22 and 23. In this particular embodiment [figure 25 and 32] Kasuga disclose the timing device as claimed except for explicitly mentioning wherein the device further comprising an electric power source to provide energy necessary for the operation of the timing device.

In the embodiment of figure 9, Kasuga discloses wherein the device comprising an electric power source [201] that is electrically connected to the operational component of the timepiece.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use a power source as suggested by the embodiment of figure 9 with the embodiment of figure 25 to facilitate system operations.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kasuga in view of Kitahara et al. [US 7,027,360].

Regarding claim 26. Kasuga discloses a timing device [figures 25 and 32; column 17, line 5- column 18, line 15], comprising an antenna [852; figure 32; column 17, lines 59-61]; a communication unit [853] being configured to communicate with an external communication device via said antenna and to send signals to a piezoelectric actuator [323];; and a mechanical structure having a rotor, said piezoelectric actuator, a time display unit being driven by said piezoelectric actuator and displaying time information, and an analog display device having analog pointers to display physical quantities, said piezoelectric actuator being supplied with said electric energy from said storage unit, said piezoelectric actuator being configured to oscillate according to a signal from said communication unit, said piezoelectric actuator having, an oscillating plate having a plate-shaped piezoelectric element and a reinforcing plate stacked on the piezoelectric element, a contact section being provided on a longitudinal tip of said oscillating plate, a support member, and a holding section being configured to hold said oscillating plate on said support member [see claims 10-13 above].

Kasuga discloses a power source for providing electric power for the device except for specifying that the power source comprising a generator unit being provided with a generating coil, said generator unit being designed to convert kinetic energy into electric energy by utilizing electromagnetic induction a storage unit being configured to store electric energy.

Kitahara et al. disclose a timepiece wherein a power generating unit B having a power generation coil 44 electrically connected to a power generator rotor 43 is in turned by the swinging (kinetic energy) of a rotary pendulum 45, voltage is induced by the rotation in power generation coil.

Since Kasuga and Kitahara et al. are both from the same field of endeavor, the purpose disclosed by Kitahara et al. would have been recognized in the pertinent art of Kasuga.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the power generation design of Kitahara et al. with the device of Kasuga for the purpose of providing energy without replacement of the power source.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matsuzawa [US 6,879,068]; Fujisawa et al. [US 6,850,468]; Shimizu [US 2003/0198140];Fujimori [US 6,934,222].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh S. Phan whose telephone number is 571-272-2109. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

tsp

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